INVESTIGATING VOICE

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INTRODUCTION

Prior to this Research Masters, I worked respectively both as a singer/songwriter and collaborator/composer for theatre. Many of my songwriting compositions and arrangements were vocally driven and a lot of my work within theatre involved the voice. As a stage performer, my characters tended to act as a catalyst for live soundscapes for the other actors to then engage with and respond to. While typewriters, metronomes and other paraphernalia were used to create the rhythm of these live soundscapes, I also found the use of the human voice, whether manipulating the script (by changing speech patterns, singing, mumbling), or in song, was also very effective. So, when it came to deciding upon an area of research, how I used my own voice became the main focus in a broader investigation of voice within sonic environments. I wanted to explore, for my own practice, what effect the inclusion of the human voice may have within a composition. For the purposes of my research, sonic environment does not refer to specific types of environment (i.e., rural, urban etc.); rather, it refers to the use of field recordings of sounds from my own everyday life, for example house keys, the rain, a squeaky door. Such field recordings were the building blocks for the sonic environments created in "The Journey" and "Seeking Shelter".

Having previously developed my creative practice within either a live setting (theatre performance/ music performance) or composing songs on a particular instrument(s), moving to a recording studio to create these compositions presented me with a new challenge. I had to question and examine how the studio process could affect the presentation of the voice within the compositional process. In theatre, the options for composition are limited and those constraints shape your compositions. The technology found in a studio means the possibilities are greatly expanded and the editing process becomes more important. I found this applied across the board from selecting the sound

sources to use for the compositions, how to edit the sound sources selected and how to process those sound sources using filters, granulators, and resonators without losing what I felt were the intrinsic qualities of the voice, or the essence of the composition, that I wished to retain. Also, creating this portfolio in the studio meant that, unlike a live performance, I was given the opportunity to constantly reflect and re-edit what I was creating. I found this led to a greater questioning of my own creative instincts.

I made a conscious decision not to include the use of text as part of the investigation. I did not want the work to be rooted in a particular language but to try and investigate the voice free from the constructs of any particular text. This approach was rooted in Poyatos' idea that we have the ability to communicate effectively without the use of verbal language and relying merely on paralinguistics and kinesics.[1] However, he only promotes paralanguage "as a means of providing additional information (supporting or contradicting the simultaneous or alternating linguistic) or as an economic device in communication".[2] Therefore, I wanted to investigate whether communication could be made merely through paralinguistic means alone, or would kinesics always have to be present to communicate to a listener. Thus my vocal sources for these compositions were mainly from the recording of breaths and non-verbal utterances.

The sound sources of my compositions however are not solely from the human voice. As previously explained, for "The Journey" and "Seeking Shelter" I recorded environmental sounds from my everyday life. These environmental sounds vary from running water, rain and birds to keys, plastic bags, rattling gates and pen writing on paper. The latter three compositions, "Voices On The Wire", "Valley of Tears", and "The Last Laugh" are solely vocal work, although I did record my voice through a hot water bottle for the track "Voices on The

[1] Fernando Poyatos "Paralanguage: A Linguistic and Interdisciplinary Approach to Interactive Speech and Sound"; 1993; pg 127

[2] Fernando Poyatos; "Paralanguage: A Linguistic and Interdisciplinary Approach to Interactive Speech and Sound"; 1993; pg 128

Wire" in order to investigate whether the use of an inanimate object to filter the voice altered in any way it's position within the sonic environment. Using a hot water bottle is an established method of manipulating or altering a listener's perception of sound by Foley artists in theatre and film. Caoimhe Doyle, Irish Foley artist, claims that "every car chase you have ever seen" gets its squealing tyre sounds from a hot water bottle being dragged across floor tiles.[3] It has also been used in radio to skew the properties of the human voice to produce a muffled or unwell quality to the voice when spoken into. In this way, I decided that recording the voice utterances as 'spoken' into a hot water bottle had potential to further alter the listener's perspective of the actual voices within the piece. An example of the use of a water bottle within the portfolio is the protagonist's voice referred to when discussing "Voices on The Wire". The last two compositions, "Valley of Tears" and "The Last Laugh" are solely vocal compositions with various individual voices all recorded in the studio setting.

In approaching this research, my contextual listening has encompassed a wide range of artists, including Francis Dhomont, particularly "L'Électro [4] and "Chambre D'Enfants[5]; Jana Winderen[6], particularly *Noisiest Guys on the Planet, Evaporation*, *Surface Runoff*; Meredith Monk[7]; Cathy Berbrian, *Stripsody*[8] and Dan Lander *Don't Tell Me I'm A Man*[9], Trevor Wishart, *Tongues of Fire*[10], and Chris Watson, particularly his live performance of *In Search of Humpback Whales* in

[3] https://www.youtube.com/watch?v=GrbgY6ajTgo Viewed September 2015. Caoimhe Foley, Ardmore Studios Interview with Newstalk 106-108 (Ireland), published YouTube 22nd August 2013

[4] *https://www.youtube.com/watch?v=6e8nGwF5spU. Viewed 3rd September 2015.* Taken from *Jalons* (Empreintes Digitales - 2003)

[5] https://www.youtube.com/watch?v=JOZODAKvlBk. Viewed 3rd September 2015. From the *album, Forêt Profonde (released 1996*)

[6] https://janawinderen.bandcamp.com Viewed 3rd September 2015. *Nosiest Guys on the Planet*; *(16 June 2009); Evaporation (16 June 2009)*; *Surface Runoff* (16 February 2008).

[7] https://www.youtube.com/watch?v=7su7d76LhWg&list=RD7su7d76LhWg#t=237 Viewed 3rd September 2015

[8] https://www.youtube.com/watch?v=0dNLAhL46xM Viewed 3rd September 2015 *(YouTube video by John Knap) Written by Cathy Berbrian, 1966*

[9] https://www.youtube.com/watch?v=nubrtmDE2aU Viewed 3rd September 2015 *(A live performance taken from CFAT, 1982)*

[10] https://www.youtube.com/watch?v=x-Or7VaMlEI Viewed 3rd September 2015. *Original released 1994 on Orpheus The Pantomime Label*

February 2014 at Glasgow University. These artists piqued my interest in differing ways. Jana Winderen's sensibilities toward the sonic environment appealed to me when approaching the first part of my portfolio. I was interested in the way her compositions unfolded in a slow and, it seemed to me, quite organic manner. In particular her use of a vocal in "Noisiest Guys on the Planet", as discussed later in this paper, influenced my approach to exploring the voice within a sonic environment. The pieces by Cathy Berbrian, Dan Lander, Meredith Monk and Trevor Wishart noted above were attractive as solo vocal pieces which pushed the boundaries of conventional vocal expression, whether through altering conventional speech patterns in the case of Berbrian, or by manipulating the voice with the use of DAW technology and filters or granulators as in Trevor Wishart's piece, or exploring the rhythmic and melodic potential of the voice as with Dan Lander and Meredith Monk. Chris Watson's appeal was more tangentially related in that it didn't directly relate to voice; however, his recording of humpback whales appeared, to me, to reflect some of the vocal qualities which I recognised in the human vocal when manipulated, and this was of interest to me. Also informing my approach have been Trevor Wishart's book *On Sonic Art*; Murray Schaffer's *Our Sonic Environment and The Soundscape – the Tuning of the World*; Fernando Poyatos, *Paralanguage: A Linguistic and Interdisciplinary Approach to Interactive Speech and Sound*; and the report, "Early Specialization for Voice and Emotion Processing in the Infant Brain" published in the Current Biology Journal.

As previously discussed, my compositional investigations began with my placing of the human voice within an environmental landscape of my own creation using field recordings gathered from my everyday life. My first two compositions, "The Journey" and "Seeking Shelter" reflect this starting point of my research and were more heavily influenced by Murray Schaffer discussions on the evolving sonic environment and the impact it has on us as humans and where or how, our sonic footprint has been forged within it. For example, if we imagine the sonic environment of a U.K city, pre-industrial revolution we could expect the sonic environment to include horse hooves and footsteps on stone, human voices,

perhaps water running, perhaps the noise of labourers forging steel or working with wood. However, when we think of the industrial revolution city, we can imagine a much greater level and variety of noise which still include footsteps, human voices, running water but now include gushing water for water power, the noise of steam engines and the mechanics of big machinery in motion provided by train, iron and cotton factories. Jump ahead to the present day, and the noise of big machinery in everyday life has been replaced by heavy engine noise from traffic, both on roads by cars and overhead by airplanes; the backdrop of notification alerts and music from portable electronic devices; and the continuous background music which permeates most public spaces (i.e cafes, shops, supermarkets). However, throughout all this change in our sonic environment the voice has been one of the constant elements within it. Therefore, how the voice interacts with and within a sonic environment was of interest to me. Payotos states, "… if we set out to study human sounds we cannot ignore those which are produced by things that function as extensions of the organism." [11] Payotos' focus appears to be more particularly on the environmental sounds resulting from human contact and as such an extension of our communicative expression. The examples given by Payotos when discussing this are the sound of metal on metal, the slamming of a door, or the tapping of a table with a fork. He creates the idea of a sonic landscape as an immediate extension of the human body and thus not only part of the communicative picture but part of an interaction process between humans and environmental sounds on a broader scale. For this reason some of the sound sources captured for the first two compositions in this portfolio were created through human engagement (i.e sound of metal along a gate; the sound of a hand grabbing a plastic bag; the sound of a hand pulling a closing door or jingling clutching keys) whilst others occurred in the wider environment (i.e the sound of birds, water running, rain). However, as my research progressed, my attention moved more towards the voice as a sonic expression in and of itself. Perhaps my practices in the latter part of my research were more heavily influenced by the work and

[11] Fernando Poyatos "Paralanguage: A Linguistic and Interdisciplinary Approach to Interactive Speech and Sound"; 1993; pg 34

writings of Fernando Poyatos on the relationship between paralanguage, kinesics and language in communication, coupled with Trevor Wishart's proposition that "some utterances indicate the internal state of the being emitting them, regardless of whether fellow-creatures interpret these as signals or not."[12]

The structure of this commentary reflects this process. I will deal with my first two compositions under the heading Stage 1 as they are both reflective of my initial research as to how and where the human voice sits within an environmental soundscape. After these compositions, I began looking at the voice in isolation and this led to the creation of "Voices on The Wire". As I began reading more about the properties of the human voice I became more curious about its potential to communicate in semantics and thus arguably beyond a pure sonic communication. The compositions "Valley of Tears" and "The Last Laugh" are a result of these investigations.

Stage 1 – Use of Voice Within Field Recording
Compositions: "The Journey" and "Seeking Shelter"

The concepts and methods behind both pieces are similar so I shall deal with those aspects together. The pieces are then discussed separately under the Analysis heading below.

Concept

Whilst listening to "The Noisiest Guys On The Planet - Side 1", by Jana Winderen, I was struck by the affect a human cough (at 17min 42secs and 17min 50secs respectively), or what sounded like a human cough suddenly within the piece made on me as a listener. I found my perspective as a listener altering from that of an outsider to an environmental experience to recognizing a "presence" within

[12] Trevor Wishart, "On Sonic Art", 1996; pg250

the piece, which, in turn, drew my attention to the presence of a recordist. This made me wonder what it would be like to actually be in that environment and in that moment as opposed to experiencing it just sonically. My compositions, "The Journey" and "Seeking Shelter" resulted from this exploration of the presence of the human vocal element within an environmental composition, and how this might influence the listener's interaction with the piece. My intention was to create a heightened sense of sonic environment by processing my own environmental recordings. Once this environment was established, my idea was to place the human voice within it to disrupt or alter the perspective of the hypothetical listener.

Method

To create my source material I made a range of environmental field recordings using a Sound Devices portable recorder and a pair of OKM II Binaural mics. My intention when using the OKM II Binaural mics was not to make a binaural composition but to deploy and process the binaural recordings in the context of a basic stereo field. The environmental field recordings, as discussed above, ranged from rain falling into puddles; birds, footsteps on muddy grass; house keys rattling; the squeaking swing of a door hinge; the wind; a plastic bag rustling and a pen drawing on paper. In essence I was choosing particular sounds I felt we might hear every day but might relegate to our subconscious. I also wanted to attempt to gather sounds with a spectral centroid ranging from generally high to generally low. The bird song and the squeaking door recordings and the keys rattling had potential for providing higher frequencies, when manipulated, in the studio; the plastic bag and to a lesser extent the wind, the footsteps, the rain falling, the rattling of keys and the pen drawing had potential for providing mid frequencies, when manipulated, in studio; and the footsteps, pen drawing and the rain falling, when manipulated, offered potential for low frequencies. The organization of sound sources in this way was based simply on my perception of their particular timbral qualities, and whether they might easily provide contrast of high or low frequency material once incorporated into

the piece. I also added a low frequency vocal, recorded in the studio, and applied a bandpass filter to further enhance the bass within the composition. All but one of the voice recordings, were recorded in the studio. The only vocal recording made outside the studio was the laughing recording taken for 'The Journey', which was made with a Sound Devices recorder using two people's voices simultaneously, laughing into the left and right mics respectively.
The vocal materials for 'The Journey" included long slow vocal exhalations; verbal utterances and one or two non-verbal vocal sighs, inhalations, laughter and long notes.

Analysis

THE JOURNEY

As mentioned above, the idea behind this composition was first to establish a sonic landscape (in the sense of Trevor Wishart's use of the term) using environmental recordings, manipulated with filters, granulators, and resonators to create a heightened sense of the environment. My compositional aim was not to create a replica of how we hear environmental sounds as they occur in everyday life but once recorded, to manipulate them in order to create an altered state of environment. The human voice was then introduced later on in the piece. The intention here was to recreate a sense of being in a womb, where sounds are muffled and unclear; then at 2' 35, we have the 'birthing' of the voice into the composition.

Once the vocal introduction had been created, I was unsure about the inclusion of the footsteps at 4'50. In the end I decided they gave a further hint of a human presence within the piece, beyond the effect of the vocal entry. This conflict also made me question whether it was, in fact, the voice, or simply the insinuation of *any* human presence that might have the ability to alter a potential listener's perception. The footsteps are followed quickly by the introduction (4' 56) of more 'natural' sounds (those of birds) combined with an intake of breath. This idea was drawn from Murray Schaffer's categorization of sounds within his book

Soundscape where vocal sound, birdsong, and other animal sounds are classified together as forming part of the natural soundscape.[13]

SEEKING SHELTER

Whilst "The Journey" began without voice, in "Seeking Shelter" I decided to introduce a human presence from the start. At '22, a filtered intake of breath announces the human presence, which returns again subtly at 1 '35. My aim in using these short, shallow and tremulous sounding breaths to form part of the landscape was to introduce the presence of a human lying in wait, or in hiding, in the hope of creating perhaps a sense of trepidation. As 'other worldly' voices begin to enter, the breath becomes more audible almost as reaction to those other voices (3 '50). My intention here was to create vocal patterns which might suggest, through their intonation, speech or singing to be communicative but that would not be recognisable as any particular words. Again, using filters, granulation, and resonance applied to both the field recordings and the vocal recordings I intended to create an 'altered state' of both the environment and the human presence.

As I continued with this composition, it appeared to me that the manipulated voice can quite often share some of the qualities heard in sound recordings of animals, for instance, the humpback whales recorded by Chris Watson[14] or, perhaps to a lesser extent those of the weddell seals captured in the composition by Douglas Quin, *Weddell Seals (Underwater)*[15]. There appear, at some points throughout "Seeking Shelter", some similarities in terms of spectral shape and pattern to those other animal 'voices' found in Chris Watsons' *In Search of*

[13] R. Murray Schaffer, "Our Sonic Environment and The Soundscape- the Tuning of the World" (1977.1994); pg33

[14] *In Search of Humpback Whales* (Live Performance - February 2014 (Glasgow University) and recorded March 2013; Released Feb 2014; BBC Radio4 Nature; This Is The Sound of Iceland- "The Land of Ice and Fire"; Series 8; Episode 3. http://www.bbc.co.uk/programmes/b03vdx7w Viewed 3rd September 2015.

[15] Douglas Quinn, "Weddell Seals (Underwater) https://www.youtube.com/watch?v=nKXKHXNxz24 Viewed 3rd September 2015. Published 29.03.2013

Humpback Whales and Douglas Quin's *Weddell Seals (Underwater)*. In "Seeking Shelter" this first comes in to play at 4' 38. This again draws on the writings of Murray Schaffer, and the idea that man 'echoes the soundscape in speech and music'[16], particularly the idea that the human and animal 'voices' demonstrate similar characteristics. This parallel occurs at several points throughout the portfolio where I employ vocal manipulation, and it is an area I intend to explore further beyond this MMus.

STAGE 2 - THE VOICE AS A SONIC ENIRONMENT

Composition: "Voices On The Wire"

Concept

This piece acts as a transition between the first two field recording based compositions, representing a shift towards entirely voice centered composition. Conceptually, it draws upon the qualities of consistency and persistence of the human voice, as discussed by Murray Schaffer in his 'town crier' example[17]. This is an idea manifest in the modern world through the ubiquity of the voice as the backdrop of our urban and mediatized soundscape- whether carried through radio, telephone and mobile platforms. The composition, conceptually, was also influenced by Poyatos' proposition that paralinguistics, such as utterances, could not effect communication in and of themselves; that they would have to be coupled with kinesics or language to effect communication.[18] Therefore, my aim with this piece was to have the voice mimic the intonations or suprasegmental elements of speech without using language itself.

[16] R. Murray Schaffer, "Our Sonic Environment and The Soundscape- the Tuning of the World" (1977.1994); pg40

[17] R. Murray Schaffer, "Our Sonic Environment and The Soundscape- the Tuning of the World" (1977.1994); pg64

[18] Fernando Poyatos "Paralanguage: A Linguistic and Interdisciplinary Approach to Interactive Speech and Sound"; 1993; pg 127

Method

I wanted this piece to reflect, in some way, the limitations of some technology, namely the data compression used by mobile phones or the bandwidth limitations of the landline telephone system. Therefore, from the recordings made, I selected vocal utterances, non-verbal utterances which were predominately within a mid to high frequency range. As I was using my own vocal for the recordings I also made the decision to vary and muffle my vocal, not just with electronic filters but also by distorting the vocal recording itself. To do so, some of the vocal utterances present in the composition were captured by directing the vocal into a hot water bottle, which was then stereo-miked to record the effect. An example of this can be heard at the beginning of the piece with the initial vocal utterances. With this repeated vocal utterance, I wanted to create the idea of a 'protagonist' within the piece, effectively a kind of 'tour guide' for the listener. This strange guide reappears on the sonic horizon throughout the piece, signaling for the instance the lull which comes at approx. 1' 53, or the part starting at 3' 50 where new elements are introduced. As hot water bottles are used frequently in film/theatre soundscapes as an instrument capable of altering the listener's perception of what they're hearing, I was curious to see if distorting the vocal in this way would have any effect on the voice's ability to communicate, or whether distorting it in this way would still resonate as 'human' within the piece. I also made the conscious decision when creating the composition to repeat the patterns of the utterances heard, with the same; the idea being that the repetition of certain sequences of utterances containing many suprasegmental features found in Western spoken language.

Analysis

I chose sound sources which contained suprasegmental features choosing those whose intonation patterns were similar to those used in speech. My intention with the composition was to include simulated speech patterns without using language. This is the first human sounding voice heard in the piece, which acts as the protagonist throughout the piece. The idea behind this being that each time the pattern of intonation is heard, a potential listener might begin to recognize

and seek it out within the composition in an attempt to make sense of the communication. Again, there is another, more chant like, repeated voice pattern which beings at ’45 and using multiple layers of this voice creates the wall of sound heard from 1 ’20 of this piece to 1 ’40. Also, when manipulating the sound sources my aim was to apply a restrictive band pass filter in order to simulate the sound of radio waves throughout the piece. Based on the concept of Schafer’s ‘town crier’ I intended to create a lot of competing ‘noise’ at times within the piece of multiple voices competing to be seen. I wanted the piece to have a slight edge of agitation arising from the competition of voices. Although it occurs throughout the piece, a clear example of this can be seen beginning at 3 ’23 and ending 3 ’55. Finally, I wanted to create a hard, almost industrial sound, to reflect the ‘town crier’s’ industrial era. In order to do so, I manipulated a voice sound source by applying resonance and bandpass filters to create an electronic-sounding sweeping sound, which can be most clearly heard competing with the protagonist‘s voice at 4 ‘11 to 4 ’40 and from 6 ’55 onward.

This is also the basis for the decision that the same voice starts and finishes the composition but throughout that voice is continually competing to be heard.

STAGE 3 – THE VOICE AS NON-VERBAL COMMUNICATOR
Compositions: “Valley of Tears” and “The Last Laugh”

I intend to deal with both compositions under the headings concept and method as both compositions were created side by side. Then under the Analysis I will discuss the respective compositions separately.

Concept

Following in the footsteps of Trevor Wishart’s writing on the relevance of utterances as a means of communication[19], whether human or animal my

[19] Trevor Wishart, “On Sonic Art”, 1996; Chapter 11; (pgs 239-262)

research began to focus more about whether utterances of themselves were capable of communicating the state of one's being. For this purpose I wanted to select utterances, which were in some sense acoustically universal. The utterances used in "Voices on The Wire" were based on intonation of speech and thus attached to my own pattern of speech and culture. My aim for these compositions was to choose sound sources which I felt might be free from these identifiers. In deciding on the sound sources, I revisited Poyatos' writings, in particular his acknowledgement that a step further in the paralanguage capable of more than merely supplementing kinesics or language are "utterances that qualitatively modify verbal language and its suprasegmental features but can occur independently"[20]. He referred to laughter and crying as examples. Poyatos notes that both utterances can result from many states of one's being whether it be sadness, joy, aggression, fear. and that while laughter is generally associated more with positive emotion and crying with negative emotion this is not mutually exclusive. [21] He continues to state that "the most interesting modification of crying by another differentiator is, of course, by laughter, crying and laughing at the same time, simultaneously combining the more characteristic components of both, that is, the tearful spasmodic nasalized sobbing and the strongly laryngealized vocal pulses of the laughter, but maintaining the downward lip distension of sadness, which is not obliterated by the secondary stimulus of laughter, as the one for crying is most of the time the primary one."[22] Furthermore, he states that, "…virtually all the audible components of laughter and certainly all of its visible ones can be present in crying, with the addition of tear-shedding".[23] From a sonic perspective therefore, the idea of capturing crying and laughing recordings as sound sources for two, almost mirror, compositions was, for me, an interesting idea. Also, Wishart had noted, and I paraphrase, that

[20] Fernando Poyatos "Paralanguage: A Linguistic and Interdisciplinary Approach to Interactive Speech and Sound"; 1993; pg 130
[21] Fernando Poyatos "Paralanguage: A Linguistic and Interdisciplinary Approach to Interactive Speech and Sound"; 1993; pg 267-286
[22] Fernando Poyatos "Paralanguage: A Linguistic and Interdisciplinary Approach to Interactive Speech and Sound"; 1993; pg 291
[23] Fernando Poyatos "Paralanguage: A Linguistic and Interdisciplinary Approach to Interactive Speech and Sound"; 1993; pg 287

Darwin[24] pointed out that crying and laughing can also be observed in chimpanzees, orangutans and baboons[25]. Therefore, it appeared that such semi-involuntary utterances are universal in the sense that their tones and intonation may differ from person to person but not so much acoustically from culture to culture. I would acknowledge, however, a further area of research beyond the scope of this MMus would be how the acts of laughter and crying respectively are perceived from culture to culture. Finally, I also thought it interesting to choose utterances, which not only are universal to humans but capable of being voiced by other species.

Method

I wanted the compositions to include a range of vocal timbres so my intention from the start was to include recordings from both males and females. For the laughter composition, I also recorded my nephew, age 2 at the time, laughing. I felt the composition required a higher pitched voice, higher than that of both the males and the females previously recorded. For "Valley of Tears" most of the sound sources were recorded in a studio by setting up each respective participant in front of the mic and once the levels were checked then leaving the studio, sometime turning off the light, to leave the participant to record their crying in private. Then when I returned I reviewed the material recorded. This is in contrast to sound sources for "The Last Laugh" which were all captured in my presence. For once such sound source I and two other participants (one male and one female) stood at different distances from the mic to capture a combined laughter voice to represent the often, shared experience of laughter. This method stands in quite stark contrast to the quite solitary, formal experience capturing the "Valley of Tears" material, which is perhaps indicative of how crying is perceived, in many Western cultures, as a more private expression of emotion. Once the recordings had been made, the selection of the sound sources for the compositions were based on what I perceived to be the communicative qualities based on intonation, timbre, inhalations within the particular

[24] Charles Darwin, "The Expression of The Emotions in Man and Animal", 1872, pg 132
[25] Trevor Wishart, "On Sonic Art", 1996; pg 250

recordings. These were edited to create a rhythmic inhale/gasp sequence, which runs throughout both pieces. The chosen crying and laughing sound sources were then separated and manipulated with filters, granulators, and resonators for the purposes of creating the respective compositions. Again, the extent of filtering applied to the sound sources was a consideration. For example, some sound sources were filtered only slightly so as to remain recognizable whilst other sound sources were extensively filtered to emphasize, for example, what I felt was a guttural and gasping quality which created the backdrop for these pieces, especially in "Valley of Tears". In choosing what filters to apply, after trial and error, I ended up preferring filters such as a bandpass filter which helped to emphasis either the lower frequency or higher frequency, respectively, of a particular sound source. I also found GRM resonant filters useful in highlighting, sometimes, a more pitched, melodic quality within the sound source which I not only found to be an interesting contrast to the more guttural sounds used in these pieces but also occasionally reflected the sounds of humpback whales found in Chris Watson's piece discussed earlier.

"Valley of Tears"

Poyatos had noted that a lot of the utterances made when crying and laughing involved spasmodic breathing and so I decided to begin the composition with more guttural intakes of breaths, followed by a rhythm pattern of shorter sharp intakes of breaths. Both these breath sounds were taken from the crying and laughing sound sources and so, feature in both compositions. At 2 '02 in "Valley of Tears", the almost guttural breathes become louder in the mix, with a pulsating quality. This, again, is a moment where I noticed that the human voice shared some of the same vocal qualities with the humpback whales, as recorded by Chris Watson, and the weddell seals recorded by Douglas Quin, as referred to previously.

Around the 2 '50 and the 4 '50 – 5 '05 mark, respectively, the male voice releases breath repeatedly very close to the mic creating a pop effect. This is one example

of how the studio challenges your creative editing processes and decisions. I deliberated about the inclusion of this sound source, given the pop effect; whether to process the sound further to alleviate the pop effect; to slice the sound source, or remove it completely from the composition. However, as previously discussed, the method for capturing the sound source for this composition was quite formal and private for the participant. I felt that the inclusion of this proximity pop on the outward exhalation was important creatively in order to reflect the intimacy and privacy of the utterance being emitted. I also felt it give a sense of human presence within the piece and a reference of the physicality of the utterances made.

This piece was composed almost side by side with the "The Last Laugh" composition and along the same premise. Poyatos had noted that the crying and laughing utterances are not exclusive and traces of crying can occur at the same time as laughter and vice versa[26]. Therefore I wanted to include some crying utterances in "The Last Laugh" and vice versa. My intention was to create some mirroring between the two compositions. This is why I decided to use the same acoustic backdrop to both pieces and why in this piece, we hear the inclusion of elements of laughter utterances, not only sporadically throughout the piece at '46; 1 '06; 1 '16; 1 '24 but also more prominently from 5 '40 to the end. This was also done in preparation for the slightly higher timbre in the laughter piece. It is also why some elements of the crying utterances can also be heard in "The Last Laugh".

"The Last Laugh"

Mirroring the "Valley of Tears" this composition again starts with the same backdrop of guttural spasmodic breathing. This is accompanied straight away by a 'bright' sounding female laughter sound source to introduce a shift away, in mood, from the "Valley of Tears" piece. However, as previously discussed, I

[26] Fernando Poyatos "Paralanguage: A Linguistic and Interdisciplinary Approach to Interactive Speech and Sound"; 1993; pg 259

intended to include some crying utterances in the "The Last Laugh" composition to mirror the "Valley of Tears". Not only can these be heard within the backdrop of both composition (i.e. the guttural spasmodic breaths, which occur at the start of both pieces, along with the short rhythm sequence breaths which appear in both) but "The Last Laugh" also includes some other utterances pertaining solely to the crying voice sources. These can be heard at approximately '07; '15; '32; '47; 1 '37 to 1 '57; 2 '07, 5'00, 5 '08 respectively. Given that Poyatos states there are similarities, physically, in the creation of both utterances; that both utterances can be used to express similar emotions (i.e. joy, happiness, sadness) and that both utterances contain some of the same audible traits (i.e. can deliver audible spasmodic quick intakes and releases of breaths) I thought it interesting to include utterances particular to crying and those particular to laughter, respectively in each composition.

Finally, it is worth noting that in this piece it struck me again that the voice of the three year old boy, laughing, (first heard in this piece at '08), when manipulated, almost began to share some similar qualities to those found in bird's 'vocalizations'.

CONCLUSION

During the course of this research I have uncovered realizations regarding my own creative practice. Before undertaking this research, most, if not all, of my compositions, whether in theatre or in songwriting, arose out of either a need to communicate an emotion or to respond creatively to a mood within text. However, for the purposes of this research my approach was different. My work was influenced, in particular, by Trevor Wishart; Murray Schaffer and Fernando Poyatos. It was also prompted by my own analysis of the qualities of the human voice and its relationship with our sonic environment through experimenting and listening in the studio. In this way my creative practice was not based on trying to create predefined emotional states, or prompted by the mood of a written text. Instead it was based on a desire to explore the full expressive range

of the human voice beyond language, both within a sonic environment and also in and of itself. However, from an early stage of this research, I realized that the voice has potentially a huge expressive range. In fact I decided as the portfolio progressed to focus on guttural, gasping sound types and to contrast these with more melodic elements – a contrast which seemed to establish a particular expressive character. I was interested also in the sound of the voice when forming speech, and whether such sounds themselves were capable of expression: I wanted to capture the tone and rhythm of the voice when *mimicking* speech but without actual words. In doing so I have also challenged my original concept of what 'vocalizations' were. I was uncomfortable at the beginning of this research to create vocalizations that might be deemed to be too "off the wall". However, listening to the vocal works of other sonic artists I have realized that vocalizations can take many different and unique forms and my own confidence has grown in developing and extending my own voice's acoustic potential. In doing so, I have established an approach which I intend to develop further in future.

Working on my own within a studio setting has also resulted in an examination of my own creative practice. As previously mentioned, the options for composition whether in theatre or songwriting are limited, whether by the capabilities of other actors or the instrument(s) upon which you are composing and those constraints help to shape your compositions. In essence, some of the editing and decision-making process has already been made for you before you even begin. However, the technology found within the Digital Audio Workstation (D.A.W) means the possibilities are, or at least can feel, at times, to be endless. One does encounter limitations, however. Firstly, retaining the organic sound and expressive quality of the voice, for example when crying and laughing as in my portfolio, can be difficult in recording. Retaining this organic quality when composing with recordings was difficult. Secondly, each particular sound processor offered by the DAW is limited by its own design; it can tend to produce certain limited outcomes. Taking this into consideration, sometimes my approach when using a filter or processor to manipulate a sound source was to

apply multiple versions, then to re-record or re-edit that altered sound source and then re-apply the numerous processors again. In this way, I found that I could avoid the potential limitations offered by the use of just one or two processors. The process of how to edit the sound sources selected and how to process those sound sources using filters, granulators, and resonators without losing what I felt were the intrinsic qualities of the compositions became of greater importance. Also, the opportunity to constantly reflect and re-edit led to a greater questioning of my own creative instincts. An example of this within my portfolio is found in "Valley of Tears" when deciding to include a sound source, which included a pop effect due to a proximity issue with the mic. I had no one to consult in this decision, so self-reflecting on the implications of its inclusion was an important process to ensure, creatively its inclusion, in my mind, was of benefit to the piece. Its inclusion, in the end was based, not on maintaining technical consistency within the piece but on my creative instinct to reference the physicality of the crying action; the private nature of the crying utterance and to give a human presence to the piece.

Also, when creating this portfolio I became aware of my instinct, when composing, to create structures akin to popular music conventions. By these I refer to compositional structures with which I am most familiar from my song-writing practice such as thirty-two-bar form, 12 bar blues or verse-chorus form. I struggled somewhat with this instinct and endeavoured to challenge myself to compose outside of those confines. The result is that the compositions created for this portfolio are completely different to any composition I would have previously composed, or considered composing.

Finally, as mentioned throughout this paper, one reoccurring thought, in particular, struck me throughout my research; that the qualities of the human voice, especially when manipulated, seem to share some similar qualities to that of animal 'vocalizations'. This arose only as an incidental to the research I intended to carry out as part of this MMus, however is an area I would identify for further research beyond this MMus.

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